

# WATER MAIN IMPROVEMENTS

## EMERGENCY CONNECTION SERVICE TO SERVE SEDGWICK COUNTY RWD #4 WATER TOWER

1060 S 167TH ST W  
CITY OF WICHITA, KANSAS

SEPTEMBER 2019

GARY JANZEN, P.E. CITY ENGINEER

PROJECT NUMBER  
2238 PPW (183021)

### GENERAL NOTES:

1. The Contractor shall comply with all applicable safety regulations. All construction shall be completed following current City Standard Specifications and Special Provisions.

2. Contractor will be required to provide notice to utility companies a minimum of seventy-two (72) hours prior to any excavation, as follows:

Kansas One-Call 687-2470

The Contractor must notify the following in case of an emergency:

AT&T 1-800-246-8464  
Black Hills Energy 1-800-694-8989  
City of Wichita Water & Sewer 1-316-219-8921  
City of Wichita Stormwater 1-316-268-4090  
City of Wichita Traffic 1-316-268-4034  
Cox Communications 1-888-249-3530  
Kansas Gas Service 1-888-482-4950  
Westar Energy 1-800-544-4857

3. Utility service lines, poles, etc. are to be adjusted as necessary by others prior to construction unless the plans specifically call for their adjustment by the Contractor or unless the plans specifically identify a utility to be adjusted by its owner during construction. Existing utilities and their location, as shown on the plans, represent the best information obtainable for design. The Contractor will be required to work around existing utilities within the right-of-way which do not conflict with proposed construction.

4. Rubble from the removal of miscellaneous structures and excess excavation which is to be wasted shall be disposed of on sites to be provided by the Contractor. These sites shall be approved by the Engineer as to suitability, appearance and site location. Locations, in the opinion of the Engineer, that will leave an unsightly appearance will not be approved. All disposal sites must be approved by the Kansas Department of Health and Environment. Material either stockpiled or disposed of in a flood plain will require a Kansas State Board of Agriculture permit. Any material dumped in waters of the United States or wetlands is subject to U.S. Corps of Engineers permitting regulations. Any material buried or stockpiled beyond approved construction limits will require additional archaeological investigations unless buried in a previously approved borrow location.

5. Trees and shrubs in public right-of-way which are in direct conflict with proposed new construction shall be removed by the Contractor with the City Engineer's approval. Trees and shrubs which are not in direct conflict with proposed new construction shall be saved and protected from damage.

6. The Contractor shall give all property owners and/or tenants of developed property abutting the construction of this project a minimum of ten (10) days notice prior to start of construction.

7. The Contractor shall be responsible for preserving property irons. The Contractor will be required to re-establish any property irons which are damaged or destroyed by his construction operations. Such irons shall be re-established by a licensed land surveyor in accordance with state laws.

8. The Engineering Division shall field locate water valves one time during construction when requested by the Contractor. It shall be the Contractor's responsibility to preserve such field locations during the construction process. Water valves, valve boxes or fire hydrants damaged during construction shall be repaired by Contractor at his own expense. Valve boxes and water meters within the project limits shall be adjusted to match final grades by the contractor.

9. The Contractor shall notify the inspecting engineer and Tom Mason at 316-268-4574 with the City of Wichita with the anticipated construction start date and notify them of project completion. Staking and inspection for this project will be the responsibility of the Contractor.

10. If traffic will be impacted by construction, a traffic control plan must be submitted and approved by the City Traffic Engineer, Brian Coon at [traffic@wichita.gov](mailto:traffic@wichita.gov) before construction can begin. The Contractor shall be responsible for all traffic control measures to facilitate construction. All construction zone markings and signage shall conform to the latest version of the Manual on Uniform Traffic Control Devices (MUTCD) as published by the US Dept. of Transportation, Federal Highway Administration. All costs associated with construction markings and signage shall be the Contractors responsibility.

11. All elevations shown are NAVD 88.

12. All areas disturbed during construction that will not be under proposed pavement shall be restored to match existing conditions.

13. Any sidewalk, drive approach, curb, or street pavement removed to construct project must have a pavement cut permit and be replaced by the City contractor. Permits can be obtained by calling 316-268-4501 or 316-268-4480.

14. All applicable fees (tap, equity, in lieu of & main benefit) must be paid before any connections can be made on this project. Quotes can be obtained on fees by calling 316-268-4555.

15. City maintenance of water mains ends at right-of-way or easement line or within two feet of vault.

16. Opening and closing of water valves shall be done slowly to prevent damage to the water distribution system from water hammer. All valves closed by the contractor must be reopened as new construction permits. The project inspector must ascertain that any valve closed by the Contractor is reopened. The contractor will be permitted to operate water valves only when the project inspector assigned to the project is present.

17. The Contractor shall lay a Tracer Wire and Set Test Stations along all water pipe installed in accordance with City Specifications and Tracer Wire Detail on detail sheet WL-101, cost is subsidiary to pipe installation.

18. The contractor shall provide materials for temporary blowoff of waterlines. Connections to the existing waterline(s) shall be made with clean, swabbed pipe and flushed upon completion of tie-ins.

19. Requests for short term water interruptions shall be made to the City Water Distribution Division and will be subject to their approval. The Contractor shall give written notice to any property owner, business, and/or tenants that will have water service interrupted at least 5 days in advance. Such notifications should indicate the time and date that the water will be turned off and when the service will be restored. No business, property owner, and/or tenants shall be without water service for more than 8 hours. Proposed tie in locations which will affect water service to property owners shall be performed during non-peak hours.

20. The Contractor must schedule the connections to the existing main with the City such that there is a minimum disruption of service. Connections shall be made during periods of low water usage. The Contractor shall submit his proposed schedule for completing work for City approval at least 10 days prior to beginning construction.

21. Deflections at pipe joint or couplings shall not exceed the pipe manufactures recommended maximum. Where deflections are greater than the maximum allowed, the contractor shall utilize fittings.

22. Any existing joint exposed during excavation shall be replaced if within four feet of proposed joint.

23. Valves 12 inch and larger are to be operated by the City Water Distribution Division, 48 hours of advance notice is required with the water Dispatch at 316-291-8921.

24. Wet tap at STA: 0+00.00 shall be installed by the City of Wichita. The Contractor will reimburse the City for tapping fees prior to tap being made. Unless noted on plans.

25. The Contractor shall protect from damage and support existing utilities through construction as approved by the utility owner and the Engineer at the contractors expense.

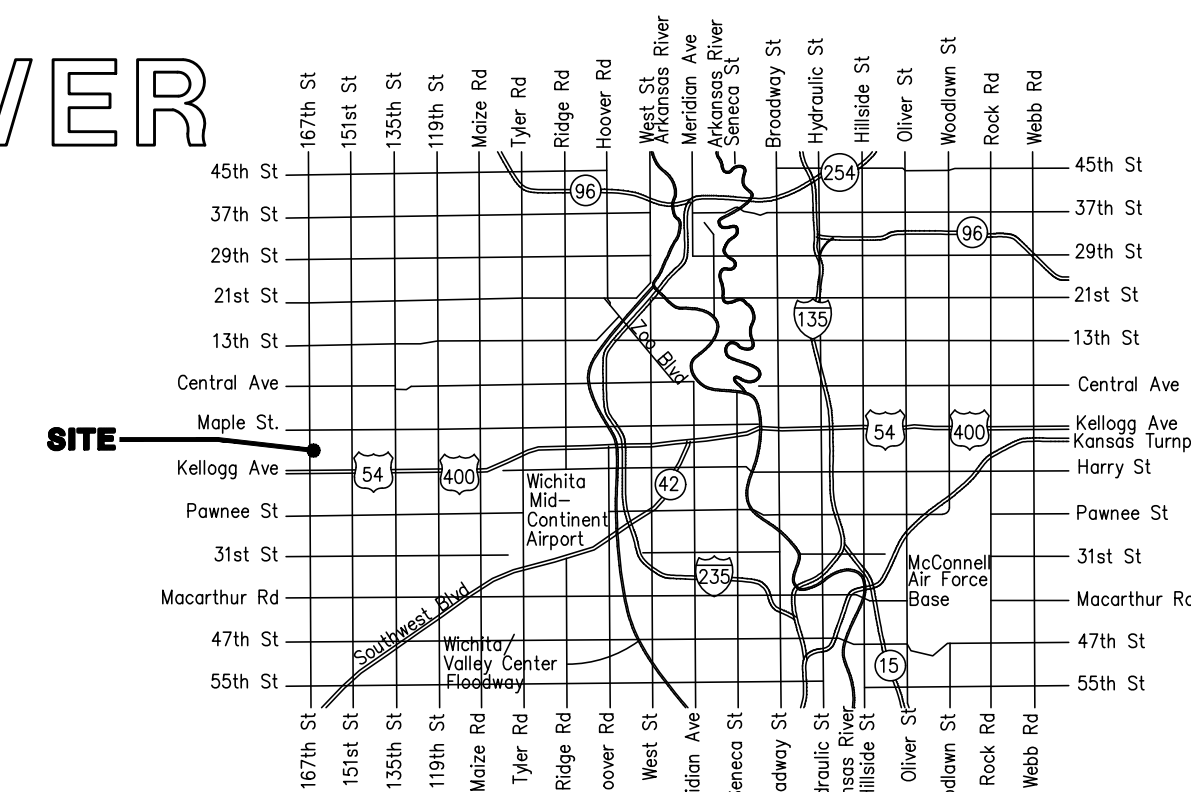
26. Contractor shall limit the extent of trench openings overnight and weekends to less than 50 feet.

27. Wichita Fire Department inspections may be scheduled by calling 316-268-4441.

#### BENCHMARK LIST

BM #1 - CHISELED "d" ON THE WEST END OF RWD #4 WATER TOWER BASE. ELEV. = 1434.07 (NAVD88)

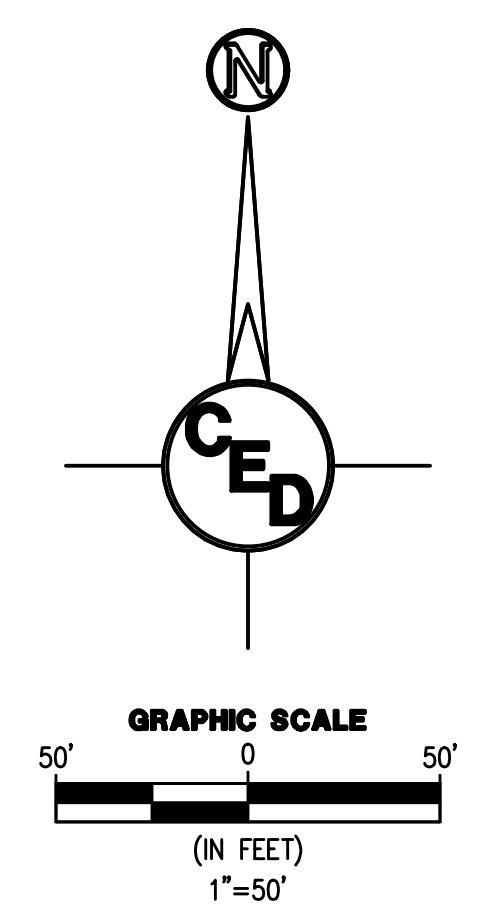
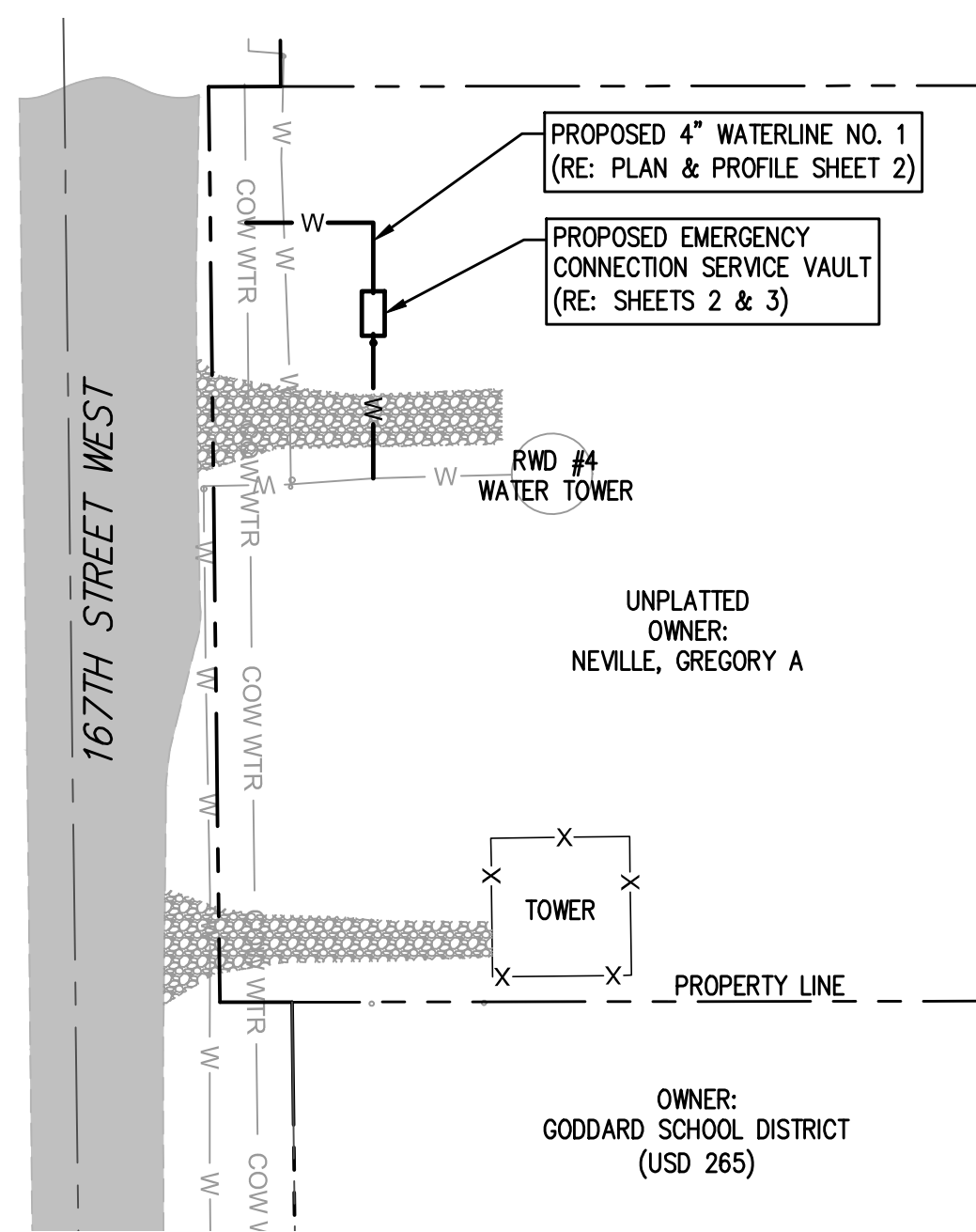
BM #2 - BACK OF CURB OF NORTH CURB RETURN OF DRIVE ENTRANCE AT INTERSECTION OF W 167TH ST & APOLLO ST. ELEV. = 1437.28 (NAVD88)



Vicinity Map

SHEET INDEX	
Sheet Number	Sheet Title
1	COVER
2	WL NO. 1 PLAN & PROFILE
3	VAULT & THRUST BLOCK DETAILS

EROSION CONTROL DETAILS (SW501-SW505) MAY BE FOUND ON THE CITY OF WICHITA PUBLIC WORKS AND UTILITIES WEB SITE.



APPROVED AS NOTED  
BY WICHITA PUBLIC WORKS  
ENGINEERING DIVISION  
& BY WICHITA FIRE DEPARTMENT

Engineering: *[Signature]* 6-12-19  
Utilities: *[Signature]* 6-12-19  
Fire Dept.: *[Signature]* 6-12-19

NOTE TO CONTRACTORS

**Public Property:**  
Inspection and testing for the waterline is to be provided by a Licensed Consulting Engineering Firm under contract with the Owner/Developer. Said inspection is to be in accordance with the City of Wichita standard construction engineering practices and certified by a Professional Engineer Licensed in the state of Kansas. No work shall be performed in dedicated easements or public right-of-way by the Contractor without such inspection nor shall any work be commenced without written authorization by City Engineering. All Construction and Materials shall comply with the City or Wichita Specifications and Standards and Special Provision (on file and available in the City Engineer's Office) or on the City's Website.

**Private Property:**  
Installation and testing for the fire protection line is to be performed by a City of Wichita licensed fire protection contractor in accordance with the fire codes as adopted by the City of Wichita. All material and construction practices for the fire protection line shall comply with the fire codes as adopted by the City of Wichita (available from the City of Wichita Fire Department). The Contractor shall not commence work without notification and approval of the Wichita Fire Department. Inspection of the fire protection line is to be provided by a licensed Engineering Firm under contract with the Owner/Developer and the Fire Department. The contractor shall not start work until the project inspector is assigned to the project and present on the site. Any work done without inspection will be required to be uncovered for inspection.

An approved copy of these plans signed by City staff are required on-site.

AS-BUILT  
CONTRACTOR: UTILITY SERVICES, JIM HOPPER - GODDARD, KS  
INSPECTOR: DEAN WALLACE / CED  
DATE OF COMPLETION: 5-15-2020  
\*BUILT IN GENERAL CONFORMANCE TO PLANS AND SPECIFICATIONS EXCEPT WHERE NOTED.

**SURVEY DISCLAIMER:**  
TOPOGRAPHIC SURVEY USED WAS PREPARED SOLELY FOR ENGINEERING PLANS. ENGINEER DOES NOT GUARANTEE SURVEY ELEVATIONS FOR ACCURACY. CONTRACTOR SHALL VERIFY ELEVATIONS AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

UTILITIES SHOWN REPRESENT THE BEST INFORMATION AVAILABLE FOR DESIGN. ADDITIONAL UTILITIES MAY BE PRESENT ON THIS PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION, DEPTH AND SIZE OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE LIABLE FOR ANY DAMAGE CAUSED BY THE FAILURE TO DO SO.



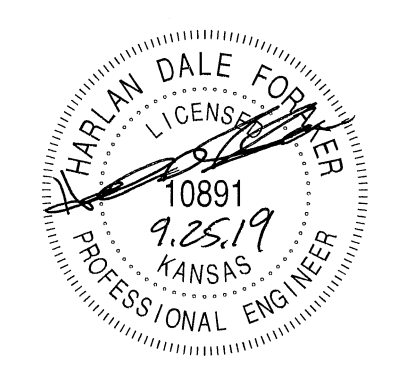
REV.	DESCRIPTION	DATE

167TH ST W - PPW  
WATER MAIN IMPROVEMENTS  
EMERGENCY CONNECTION  
CITY OF WICHITA  
NW 1/4 OF THE SW 1/4, S27-T27S-R2W  
WICHITA, SEDGWICK COUNTY, KS

CERTIFIED ENGINEERING DESIGN, P.A.  
CIVIL ENGINEERING SERVICES

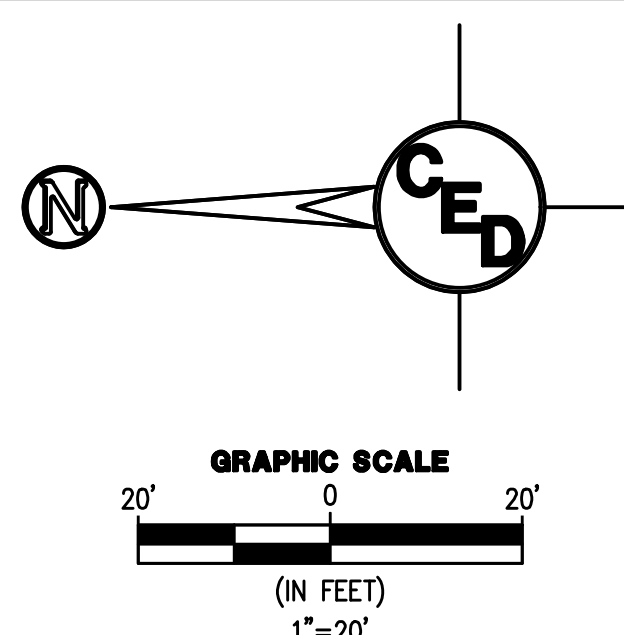


1935 WEST MAPLE STREET  
WICHITA, KANSAS 67213  
PH.(316)262-8808 FAX.(316)262-1669



PROJECT NO.: 20182602  
ISSUE DATE: 06/12/19  
CONTACT: H. FORAKER / L. MILLS  
CHECKED BY: H. FORAKER / L. MILLS

**COVER**



**HORIZONTAL CONTROL POINTS**

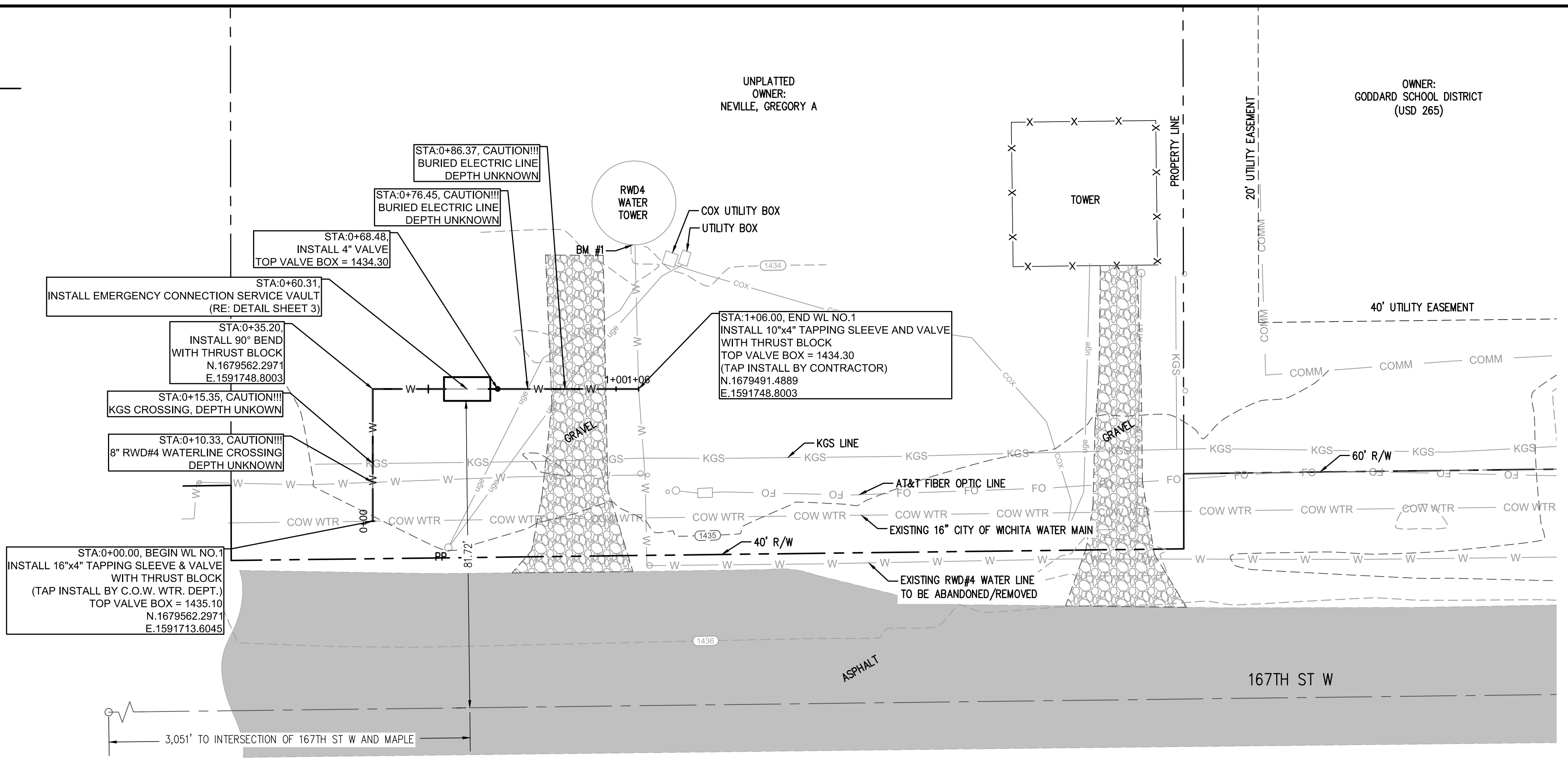
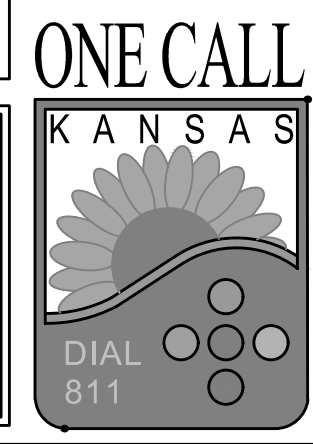
C.P. #1	N 1679946.326 E 1591726.249	REBAR WITH ORANGE CAP
C.P. #2	N 1679622.125 E 1591735.112	REBAR NO CAP

**BENCHMARKS**

BM #1	ELV = 1434.07 (NAVD89)	CHISELED SQUARE CUT ON WEST END OF RWD#4 WATER TOWER BASE
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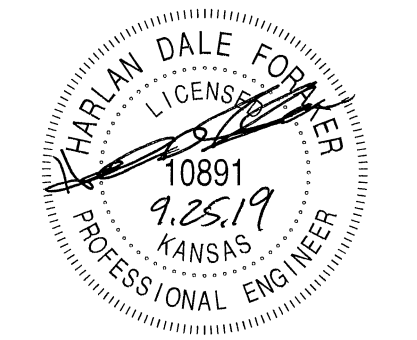
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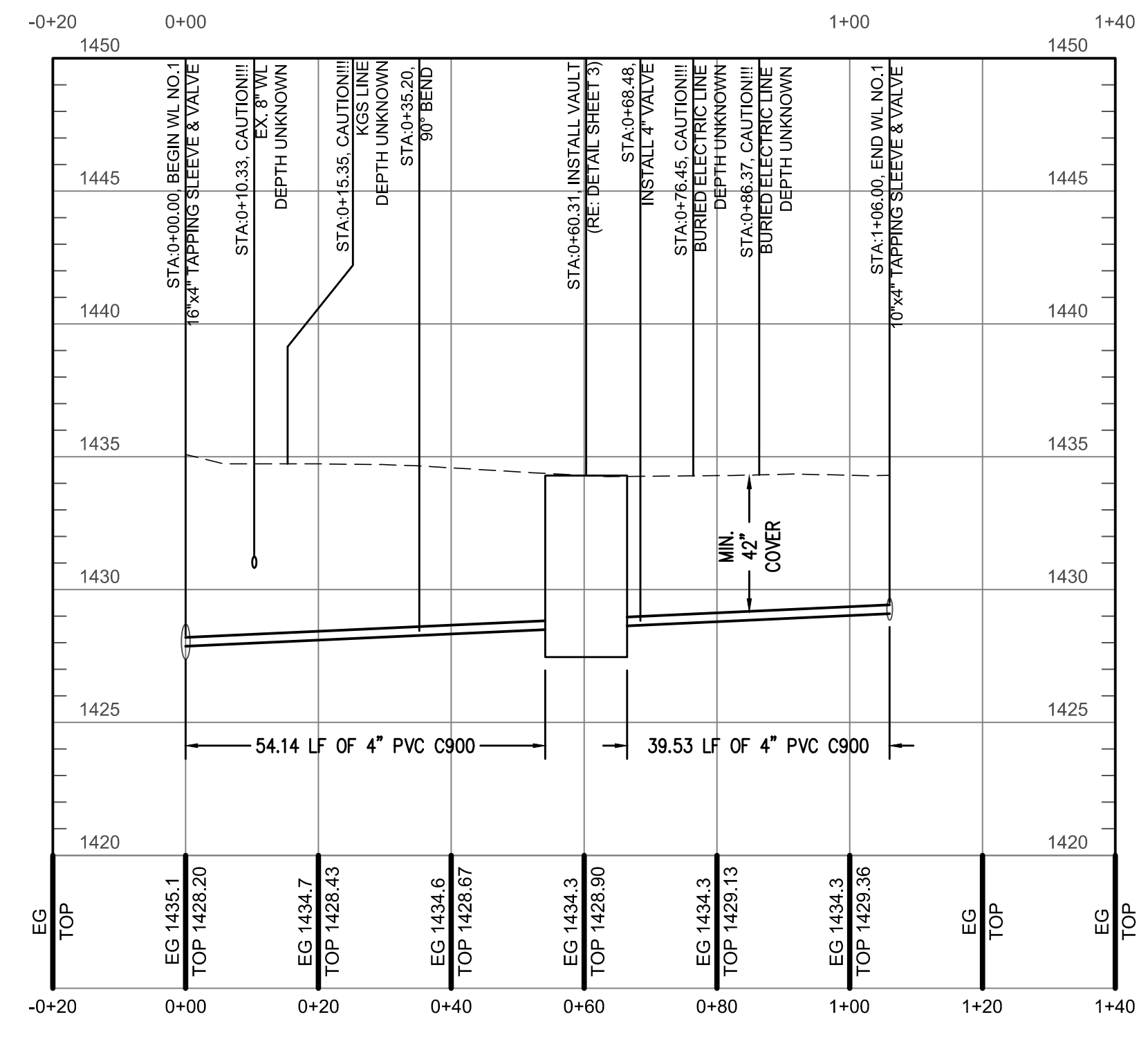


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**WL NO.1 PLAN & PROFILE**

WL NO. 1

HORIZONTAL SCALE 1" = 20'  
VERTICAL SCALE 1" = 5'

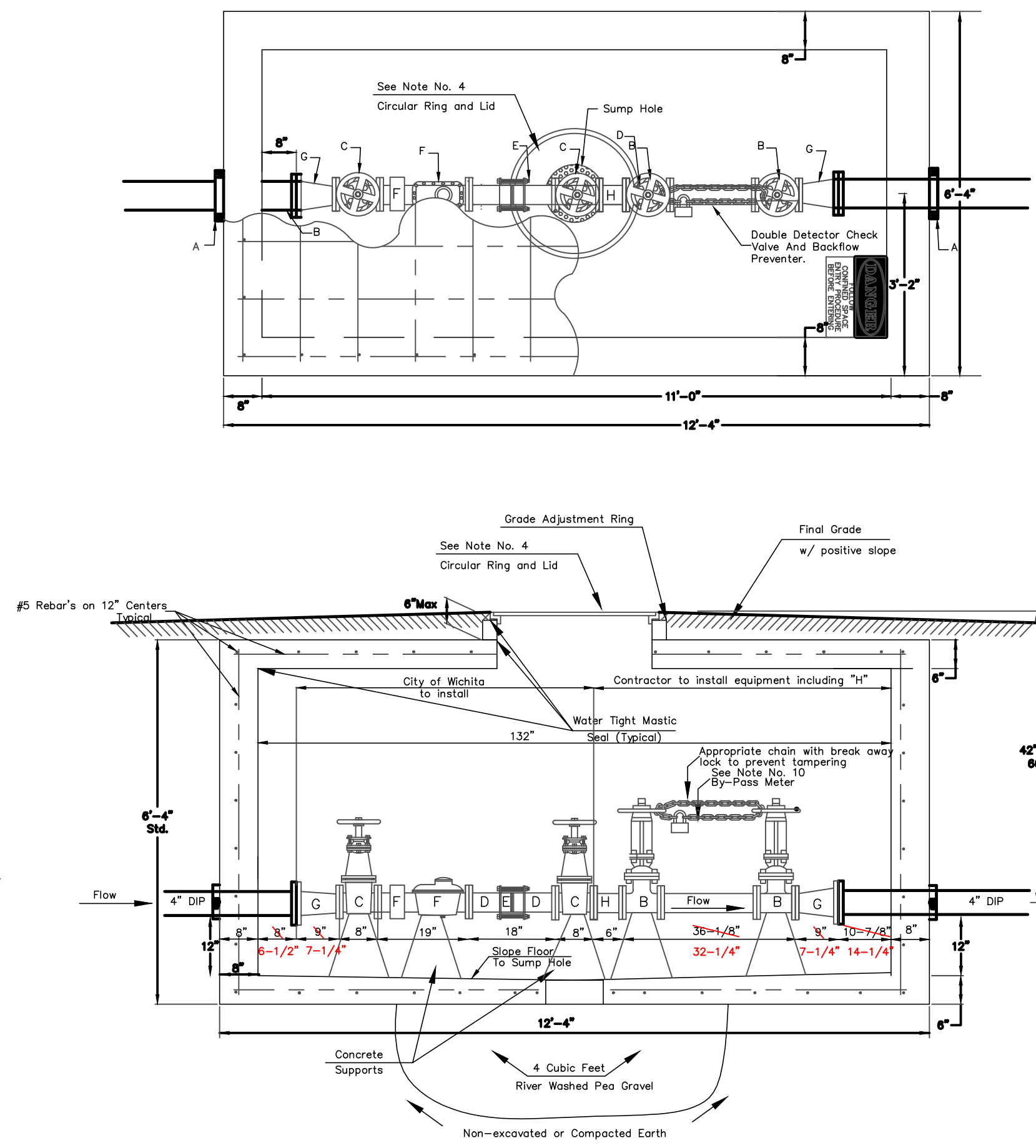


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FILE LOCATION: S:\Drawing\_Files\Projects\2018\20182602\DWG\167th St - PPW\_AS-BUILT.dwg, TAB NAME: PLAN & PROFILE, USER: rsoyner2, SAVED: 1/27/2021 3:38 PM, PLOTTED: 1/27/2021 3:39 PM

Notes For All Services - 3" thru 12":

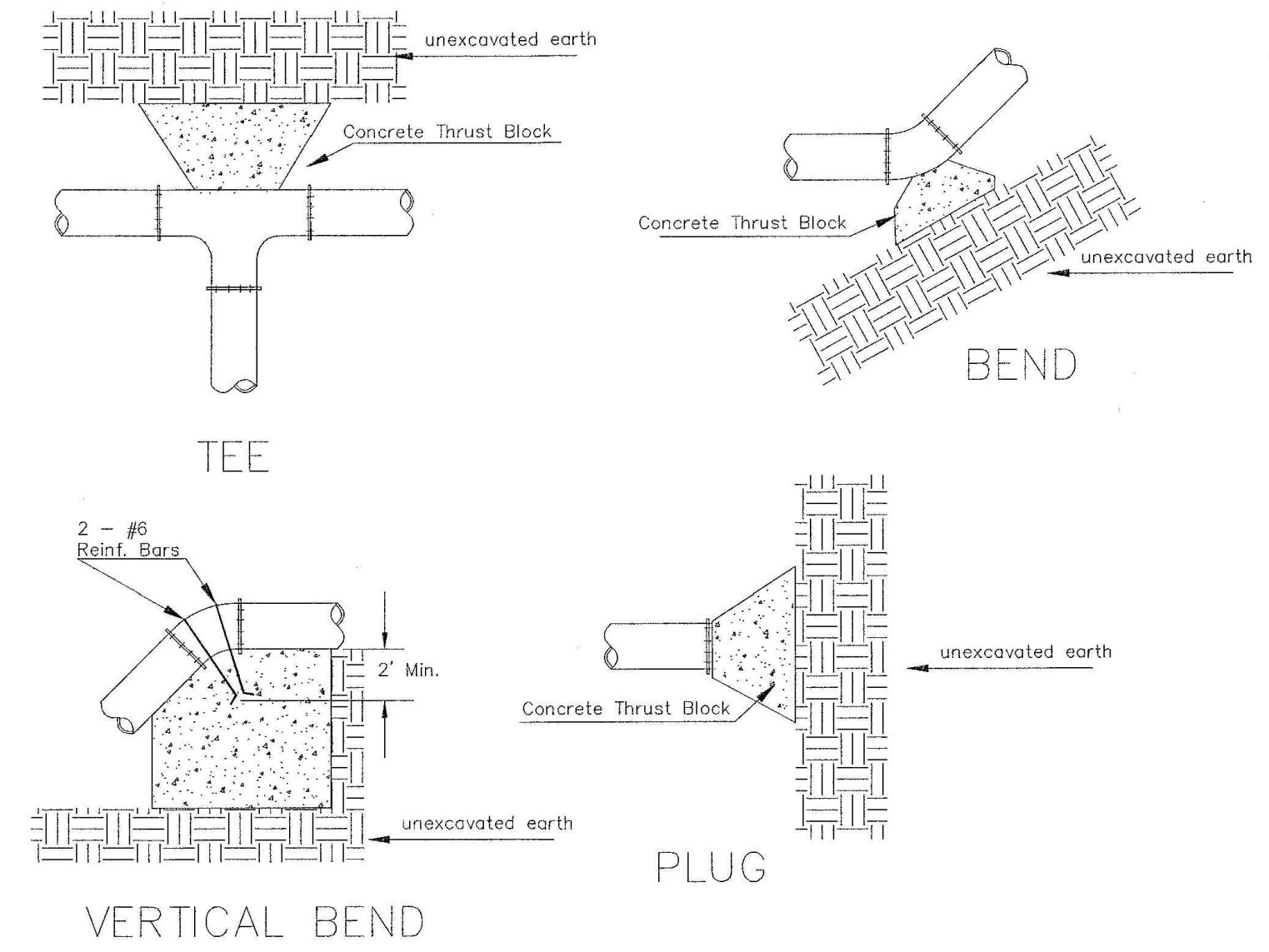
- When the standard vault dimensions are not applicable, such as when additional space is required for special pipe, fittings, additional meters, etc. the design engineer shall design a vault with the required dimensions for Public Works and Utilities approval.
- The vault shall be poured concrete, cement blocks (voids to be completely filled with 2500 P.S.I. concrete), or approved precast structure (such as Clutter Inc. vaults approved 8/1/2000). The intent of these details shall not be limited by drawings or standards of precast structures.
- Vault location to be determined by Public Works and Utilities prior to construction and approved by Department's field supervisor prior to installation. A final inspection will be required for acceptance. Vault location standards include but not limited to: not to be located where subjected to vehicular loads, not to be located in any right-of-way or utility easement, and must be located on the property being served.
- The manhole ring and lid shall be Neenah R-6034 Frame with Type "C" Solid Lid and Drop Down Handle or US Foundry APS-30x30 (Aluminum). Where applicable the standard 10" Public Works and Utilities pattern meter reading lid and ring shall be located directly above water meter register. All meter registers shall have an approved lid directly vertical above. All joints of concrete to concrete or metal to concrete in the construction of the vault shall have an approved water tight mastic joint seal.
- Any fittings or appurtenances required to achieve proper elevation of pipe through the vault shall be provided by the contractor and appropriately noted on as-builts submitted by the inspecting engineer. Such fittings shall be a minimum of 2' from the exterior wall of vault.
- For all domestic services larger than 3" the contractor shall provide an outlet flange connection as shown 8" from the inside wall. Inlet and outlet wall sleeves shall be provided and installed by the contractor and shall be in alignment with one another. The inlet and outlet pipe shall be ductile iron pipe, cement lined, Class 150 per Standard Specifications and shall be continuous through vault wall and joint no less than 2' from the exterior wall of vault. Flanges of inlet and outlet pipes shall be in proper alignment and bolt pattern shall be rotated in such a way that valves and other fittings shall be in their proper vertical alignment when installed.
- For all services 4" and larger the contractor shall install a mega lug, restrained joint, or approved equal on the exterior walls of the vault, which shall be manufactured of ductile iron conforming to ASTM A 536-80, heat treated to a minimum hardness of 370 BHN and have a working pressure of at least 250 P.S.I. For all services smaller than 4" the contractor shall install an approved vault clamp on the exterior walls of the vault.
- All valves, meters, assemblies, and fittings shall be provided with sufficient concrete or other approved supports to the vault floor.
- The "Confined Space Warning" sign shall be fastened to the top of all vaults. If necessary for landscaping or site considerations, the sign may be fastened to the vault lid if it does not impede access to the handle. Acceptable materials: Aluminum 73415HH, Plastic 73439HH, or S.A. Vinyl 73463HH.
- All meters shall have an electronic read register compatible with the current City of Wichita meter reading system. All detector meters shall be an 5/8 cubic foot Badger meter with ERT register or approved equal. Gallon meters shall not be accepted.
- Additional Notes For Fire Services:
  - A post indicator valve (PIV) is an option for the outlet valve and may be requested by the architect or owner. The PIV is not required by City of Wichita ordinance.
  - When Siamese connections are required by the Wichita Fire Department, refer to the current City Code Section 15.
  - If due to any reason the completed vault retains ground or drainage water in excess of 4" in depth from the floor of the vault, the property owner shall be responsible for providing and installing an appropriate automatic sump pump or approved equal, as well as any other appurtenances required to make such system function as intended.
  - The property owner is responsible for completing an "Application for Private Fire Protection" prior to final acceptance of the project.
- The City of Wichita will install Items C, D, E, F. The City of Wichita will install G on the inlet side only. The DDC will need connected to the reducer that needs attached to the outlet flange. The Contractor will connect the outlet reducer and the DDC. The outlet valve usually attached to the outlet flange will be attached to the inlet side of the DDC. The Contractor will install Items A,B, H and Outlet G.



- A - 4" Mega Lug (See Note 7)
- B - Double Detector Check Valves and Backflow Preventer
- C - 3" Flange Non-rising Stem Gate Wheel Valve
- D - 3" FL x PE Pipe
- E - 3" Flex Coupling
- F - 3" Badger Recordall II Turbo Cubic Foot Meter with ERT Register or Sensus W-1000DR Cubic Foot Meter with AMR Register, w/Strainer.
- G - 4" x 3" Flange Reducer
- H - 3" FL x FL Pipe(6" Length)

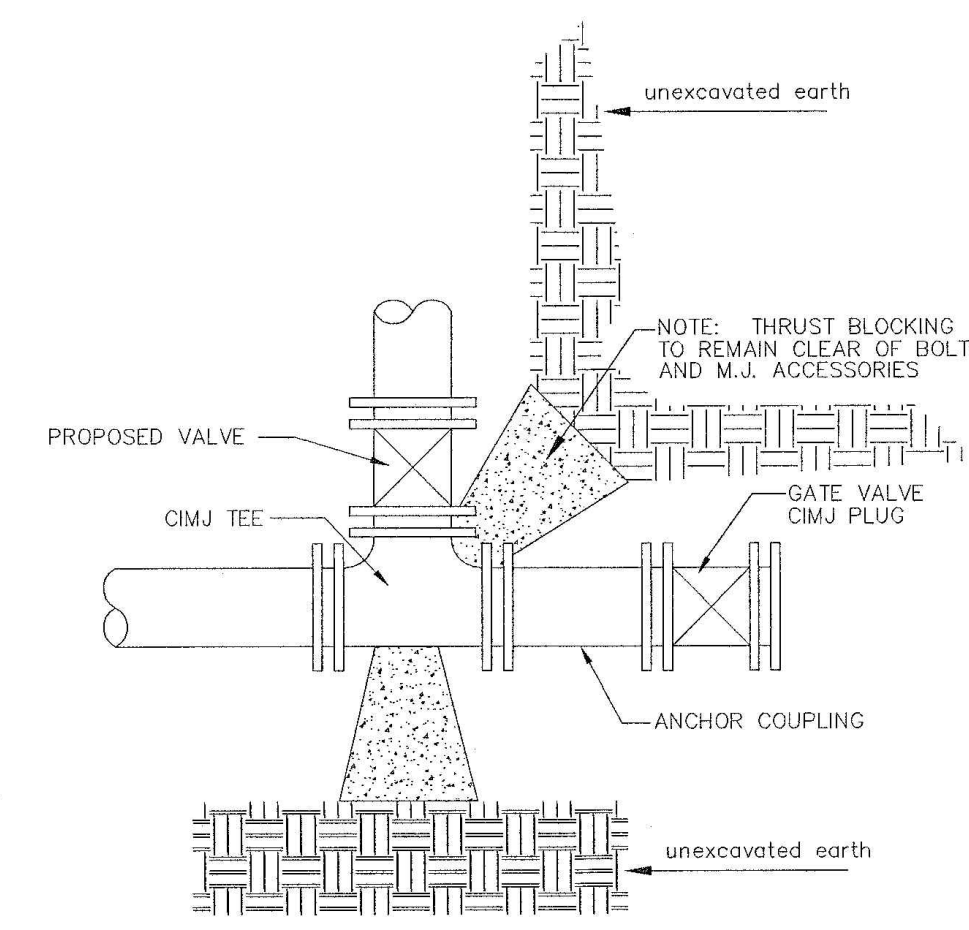
## Emergency Connection Service Vault with 3" meter & 3" Double Detector Check Valve w/Backflow Preventer

NOTE:  
INSPECTOR FROM PUBLIC WORKS AND UTILITIES TO BE CONTACTED 24 HOURS PRIOR TO INSTALLATION TO SET VAULT.  
CONTACT: 316-219-8928 OR 316-219-8929



PIPE SIZE	THRUST AT FITTINGS IN TONS-AT 150#/IN <sup>2</sup> P					
	PLUG	90°	45°	22 1/2°	11 1/4°	TEE
6"	2.8	3.95	2.15	1.09	.55	2.8
8"	4.9	6.95	3.75	1.90	.96	4.9
12"	11.4	16.1	8.75	4.45	2.25	11.4
16"	20.15	28.5	15.4	7.85	3.95	20.15
20"	31.15	44.0	23.85	12.15	6.10	31.15
24"	44.55	63.0	34.1	17.4	8.75	44.55

TYPICAL THRUST BLOCKS



KEY BLOCK DETAIL

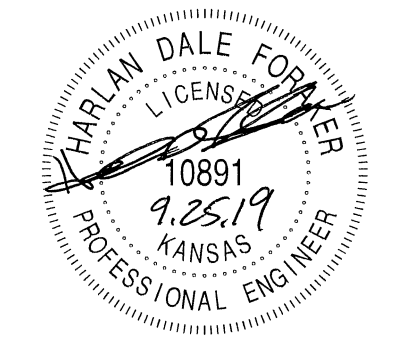
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PROJECT NO.: 20182602  
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CONTACT: H. FORAKER / L. MILLS  
CHECKED BY: H. FORAKER / L. MILLS

### VAULT & THRUST BLOCK DETAILS

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CONTRACTOR: UTILITY SERVICES, JIM HOPPER - GODDARD, KS  
INSPECTOR: DEAN WALLACE / CED  
DATE OF COMPLETION: 5-15-2020

FILE LOCATION: S:\Drawing Files\Projects\2018\20182602\DWG\167th St - PPW AS-BUILT.dwg, TAB NAME: DETAILS, USER: ryanmyer2, SAVED: 1/27/2021, 3:38 PM, PLOTTED: 1/27/2021, 3:39 PM